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ANTI-BACTERIAL AND ANTI-FUNGAL MONOFILAMENT

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JAPIO CLASS: 15.1 (FIBERS -- Yarns & Ropes); 14.2 (ORGANIC CHEMISTRY --  
High Polymer Molecular Compounds); 14.4 (ORGANIC CHEMISTRY --  
Medicine)

#### ABSTRACT

PROBLEM TO BE SOLVED: To obtain, without lowering physical properties, anti-bacterial and anti-fungal monofilament having excellent spinability and light resistance and being useful as filters for air-conditioning system by making fiber from a polyolefin-based resin containing anti-bacterial zeolite, etc.

SOLUTION: This monofilament is made from a polyolefin-based resin which is turn is a blend of (A) 100 pts.wt. of a resin component containing polyolefin resin such as low-density polyethylene as the main component, (B) preferably 0.3 to 20 pts.wt. of anti-bacterial zeolite and preferably (C) 0.01 to 40 pts.wt. of a thiazoline-based organic anti-bacterial agent. Preferably, the mean particle size of the anti-bacterial zeolite is set at 0.1 to 10.mu.m and the thickness of the monofilament at 50 to 3000 denier.

----- CAPLUS  
 AN 1998:585771 CAPLUS  
 DN 129:246461  
 TI Antibacterial fungicidal polyolefin monofilaments  
 IN Kimura, Yoshikazu; Shoda, Masahiro  
 PA Kanebo, Ltd., Japan; Kanebo Kasei K. K.  
 SO Jpn. Kokai Tokkyo Koho, 10 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM D01F006-46  
 ICS A01N025-10; A01N043-74; A01N059-00; D01F001-10  
 CC 40-2 (Textiles and Fibers)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10237716	A2	19980908	JP 1997-36240	19970220
AB	The antibacterial monofilaments consist mainly of polyolefins and contain antibacterial zeolites and thiazoline compd. org. bactericides. The monofilaments are useful for air filters and antibacterial fabrics. A compn. contg. polypropylene 100, antibacterial A zeolite (contg. 10 parts Ag ion per 100 parts zeolite) 0.5, and 2-n-octyl-4-isothiazolin-3-one 0.1 part was melt spun and drawn to give monofilaments with tenacity 6.0-7.0 g/denier and no yarn breaks. The spun monofilament were made into a woven net to give a filter exhibiting bacteria redn. amt. .gtoreq.99.9% as detd. by a specified test and good resistance to fungus growth and good light resistance.				
ST	antibacterial polyolefin fiber monofilament; fungicidal polyolefin fiber monofilament; polypropylene fiber monofilament antibacterial; polyethylene fiber monofilament antibacterial; zeolite bactericide polyolefin fiber monofilament; octylisothiazolinone fungicide polyolefin fiber; air filter antibacterial polyolefin monofilament; fabric antibacterial polyolefin monofilament				
IT	Polyolefin fibers Polypropene fibers, uses RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses) (antibacterial fungicidal polyolefin monofilaments contg. metal ion-contg. zeolites and org. thiazoline compds.)				
IT	A zeolites RL: BUU (Biological use, unclassified); MOA (Modifier or additive use); PRP (Properties); BIOL (Biological study); USES (Uses) (contg. silver ion, copper ion, or zinc ion; antibacterial fungicidal polyolefin monofilaments contg.)				
IT	Polypropene fibers, uses RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses) (ethylene-propene; antibacterial fungicidal polyolefin monofilaments contg. metal ion-contg. zeolites and org. thiazoline compds.)				
IT	Polyolefin fibers RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses) (ethylene; antibacterial fungicidal polyolefin monofilaments contg. metal ion-contg. zeolites and org. thiazoline compds.)				
IT	Fabrics Filters				

(for air; antibacterial fungicidal polyolefin monofilaments  
contg. metal ion-contg. zeolites and org. thiazoline compds. for)

IT Fungicides  
(org. thiazoline compds.; antibacterial fungicidal polyolefin  
monofilaments contg.)

IT X zeolites  
Y zeolites  
RL: BUU (Biological use, unclassified); MOA (Modifier or additive  
use); PRP (Properties); BIOL (Biological study); USES (Uses)  
(silver ion-contg.; antibacterial fungicidal polyolefin  
monofilaments contg.)

IT Antibacterial agents  
(zeolites contg. silver, copper, or zinc ion; antibacterial  
fungicidal polyolefin monofilaments contg.)

IT 7631-86-9, Silica, uses  
RL: BUU (Biological use, unclassified); MOA (Modifier or additive  
use); PRP (Properties); BIOL (Biological study); USES (Uses)  
(amorphous, fungicide-contg. substrate; antibacterial fungicidal  
polyolefin monofilaments contg. metal ion-contg. zeolites and  
org. thiazoline compds. contg.)

IT 9002-88-4, Polyethylene 9010-79-1, Ethylene-propylene copolymer  
25085-53-4, Isotactic polypropylene  
RL: PEP (Physical, engineering or chemical process); POF (Polymer in  
formulation); PRP (Properties); TEM (Technical or engineered  
material use); PROC (Process); USES (Uses)  
(fiber; antibacterial fungicidal polyolefin monofilaments contg.  
metal ion-contg. zeolites and org. thiazoline compds.)

IT 26530-20-1  
RL: BUU (Biological use, unclassified); MOA (Modifier or additive  
use); PRP (Properties); BIOL (Biological study); USES (Uses)  
(fungicide; antibacterial fungicidal polyolefin monofilaments  
contg.)

IT 14701-21-4, Silver ion, uses 15158-11-9, uses 23713-49-7, Zinc  
ion, uses  
RL: BUU (Biological use, unclassified); MOA (Modifier or additive  
use); PRP (Properties); BIOL (Biological study); USES (Uses)  
(zeolites contg., bactericide; antibacterial fungicidal  
polyolefin monofilaments contg.)